

# Crossport

## DICOM Conformance Statement

## Overview

Crossport is a secure and convenient system for transferring DICOM data over the Internet and for tracking data transfers. Utilising standard Internet protocols to act as a bridge between remote networks Crossport enables data transfers without the need to open any firewalls for incoming traffic. Using any DICOM storage enabled application the user can transfer data to a remote destination as easily as to a local destination.

Data is compressed, encrypted and digitally signed while in transfer to ensure confidentiality and integrity. Transfers are tracked using a web-based status tracking system to provide feedback and information to the user.

SOP Classes	User of Service (SCU)	Provider of Service (SCP)
<b>Transfer</b>		
Crossport supports all storage SOP classes in DICOM. See table A-1 for the current list.  Crossport can also be configured to support additional SOP classes and exclude support for current SOP classes.	Yes	Yes

*Table 0-1 Network Services*

# Table Of Contents

<b>1. Introduction</b> .....	<b>1</b>
1.1. Revision History .....	1
1.2. Audience .....	1
1.3. Remarks .....	1
1.4. Definitions, Terms and Abbreviations .....	1
1.5. References .....	2
<b>2. Networking</b> .....	<b>3</b>
2.1. Implementation Model .....	3
2.1.1. Application Data Flow .....	3
2.1.2. Functional Definition of AE's .....	3
2.1.2.1. Functional Definition of Dispatcher Application Entity .....	3
2.1.2.2. Functional Definition of Collector Application Entity .....	3
2.1.3. Sequencing of Real World Activities .....	4
2.2. AE Specifications .....	4
2.2.1. Dispatcher Application Entity .....	4
2.2.1.1. SOP Classes .....	4
2.2.1.2. Association Policies .....	4
2.2.1.3. Association Initiation Policy .....	5
2.2.1.4. Association Acceptance Policy .....	5
2.2.2. Collector Application Entity .....	7
2.2.2.1. SOP Classes .....	7
2.2.2.2. Association Policies .....	7
2.2.2.3. Association Initiation Policy .....	7
2.2.2.4. Association Acceptance Policy .....	9
2.3. Network Interfaces .....	9
2.3.1. Physical Network Interface .....	9
2.3.2. Additional Protocols .....	9
2.4. Configuration .....	9
2.4.1. AE Title/Presentation Address Mapping .....	9
2.4.1.1. Local AE Titles .....	9
2.4.1.2. Remote AE Title/Presentation Address Mapping .....	10
2.4.2. Parameters .....	10
<b>3. Support of Character Sets</b> .....	<b>12</b>
<b>4. Security</b> .....	<b>14</b>
4.1. Security Profiles .....	14
4.2. Association Level Security .....	14

4.3. Application Level Security .....	14
<b>Appendix A Supported SOP Classes .....</b>	<b>15</b>

# 1 Introduction

## 1.1 Revision History

Version	Date	Description
1.0	2005-05-09	Initial release
1.1	2007-03-23	Updated with Character Set specifications
1.2	2007-07-02	Maximum PDU size made configurable for Dispatcher AE
1.3	2008-03-26	Support for additional SOP classes
1.4	2008-09-18	Support for additional storage SOP classes
1.5	2008-09-22	Document reformatting to better adhere to DICOM standard

*Table 1.1-1 Revision history*

## 1.2 Audience

This document is intended for health system integrators. The reader is assumed to have a working knowledge of DICOM and TCP/IP networking.

## 1.3 Remarks

This conformance statement covers software version 2.5.0.0 and later releases of Crossport.

The DICOM standard does not guarantee system interoperability. Comparing Conformance Statements is one step to verify system compability. Further steps to check compability includes testing and verification.

The DICOM standard is a work in progress. It is continually developing and evolving to meet future requirements. Krucom AB reserves the rights to make changes to its products to reflect this.

## 1.4 Definitions, Terms and Abbreviations

**[AE]**

Application Entity

**[AES]**

Advanced Encryption Standard symmetric key block cipher

**[Collector]**

AE responsible for retrieving, processing and storing data retrieved from a Delivery Area.

**[Delivery Area]**

Temporary storage area for DICOM data in transit between a Dispatcher and a Collector.

**[Dispatcher]**

AE accepting DICOM data from storage SCUs. The data is processed and stored in a Delivery Area.

**[DICOM]**

Digital Imaging and Communications in Medicine

**[DIMSE]**

DICOM Message Service Element

**[PDU]**

Protocol Data Unit

**[RSA]**

Rivest, Shamir, Adleman public key encryption/digital signature algorithm

**[SCP]**

Service Class Provider

**[SCU]**

Service Class User

**[SHA]**

Secure Hash Algorithm

**[SOP]**

DICOM Service-Object Pair

**[TCP/IP]**

Transmission Control Protocol/Internet Protocol

**[UID]**

Unique Identifier

**[VR]**

Value Representation

## 1.5 References

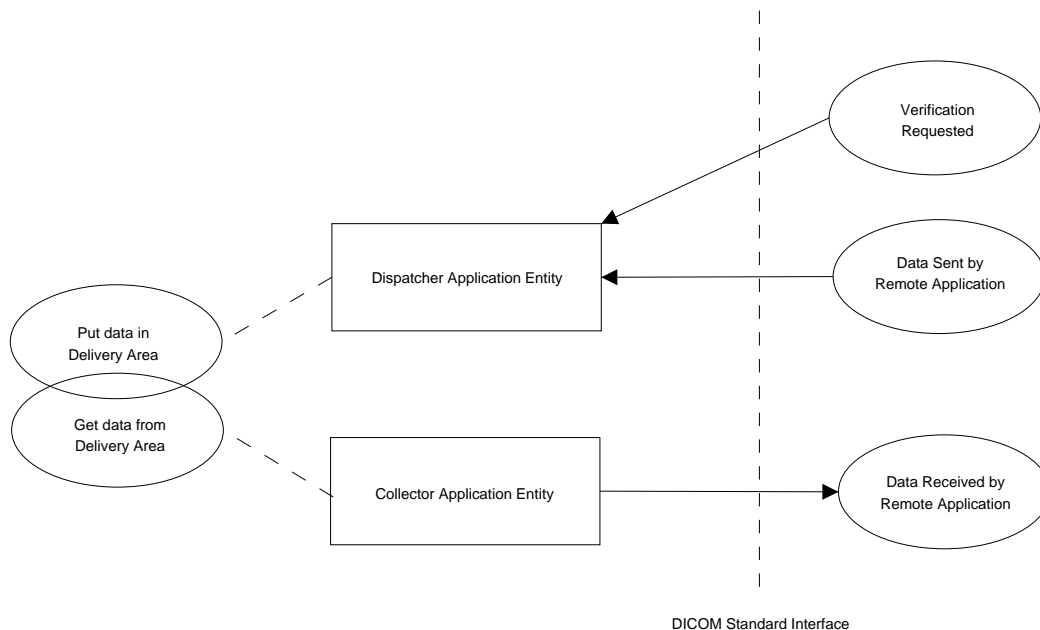
**[DICOM]**

Digital Imaging and Communications in Medicine (DICOM), NEMA PS 3.1-3.16, 2003

## 2 Networking

### 2.1 Implementation Model

#### 2.1.1 Application Data Flow



**Figure 2.1.1-1 Implementation Model**

The application can be modeled as the following two AEs although the AE title to instance mapping is not straight forward:

- Dispatcher AE accepts incoming DICOM data and responds to verification requests. It may respond to several AE titles and routes the received DICOM data to a Delivery Area based on the Called AE title.
- Collector AE receives images transferred from a Delivery Area and relays them to a storage SCP. There may be multiple Collector AEs in a single Crossport instance.

#### 2.1.2 Functional Definition of AE's

##### 2.1.2.1 Functional Definition of Dispatcher Application Entity

Dispatcher AE accepts associations with Presentation Contexts for the Storage Service Class. Received SOP instances will be processed and stored in a Delivery Area. It also accepts associations with Presentation Contexts for SOP Class of the Verification Service Class and responds successfully to echo requests.

##### 2.1.2.2 Functional Definition of Collector Application Entity

Collector AE periodically checks the Delivery Area for new objects. If any are found they are retrieved, processed and sent to a preconfigured remote AE. Several Collector AEs may be active within a single Crossport Remote instance and checks different Delivery Areas and sends images to different remote AEs.

### 2.1.3 Sequencing of Real World Activities

The Dispatcher AE performs its activities asynchronously in the background and is not dependent on any sequencing.

Each Collector AE performs their activities in parallel and is not dependent on any sequencing. Objects will be processed in the order of discovery.

## 2.2 AE Specifications

### 2.2.1 Dispatcher Application Entity

#### 2.2.1.1 SOP Classes

Dispatcher AE provides Standard Conformance to the following SOP classes:

SOP Class Name	SOP Class UID	SCU	SCP
Verification SOP Class	1.2.840.10008.1.1	No	Yes
Dispatcher AE supports all storage SOP classes in DICOM. See table A-1 for the current list.  Dispatcher AE can also be configured to support additional SOP classes and exclude support for one or more of the current SOP classes.		No	Yes

*Table 2.2.1.1-1 SOP Classes for Dispatcher Application Entity*

#### 2.2.1.2 Association Policies

##### 2.2.1.2.1 General

Dispatcher AE only accepts associations. It never initialises any associations.

Maximum PDU size received	Configurable with default value 16 kB
---------------------------	---------------------------------------

*Table 2.2.1.2.1-1 Maximum PDU size accepted*

##### 2.2.1.2.2 Number of Associations

Maximum number of simultaneous associations	Unlimited
---	-----------

*Table 2.2.1.2.2-1 Number of associations as an association acceptor for Dispatcher*

##### 2.2.1.2.3 Asynchronous Nature

Dispatcher AE only allows one outstanding transaction on an Association.

### 2.2.1.2.4 Implementation Identifying Information

Implementation Class UID	1.2.752.48.3.1.1.6.1
Implementation Version Name	KRUCOM_J1.6.1

*Table 2.2.1.2.4-1 DICOM implementation class and version for Dispatcher*

### 2.2.1.3 Association Initiation Policy

Dispatcher AE only accepts associations. It never initialises any associations.

### 2.2.1.4 Association Acceptance Policy

Dispatcher AE accepts Associations with a Called AE title matching one of the preconfigured data routes. If the Called AE title does not match any configured route the Association will be rejected.

Dispatcher AE can be configured to only accept Associations with certain Calling AE Titles, the default setting is to accept Associations from any Calling AE Title.

#### 2.2.1.4.1 Activity - Receive Echo Request

##### 2.2.1.4.1.1 Description and sequencing of Activities

Dispatcher AE will respond successfully to any Echo request made over an open association.

##### 2.2.1.4.1.2 Accepted Presentation Contexts

Abstract Syntax		Transfer Syntax		Role	Extended Negotiation
Name	UID	Name	UID		
Verification	1.2.840.10008.1.1	Implicit VR Little Endian	1.2.840.10008.1.2	SCP	None
		Explicit VR Little Endian	1.2.840.10008.1.2.1	SCP	None

*Table 2.2.1.4.1.2-1 Accepted presentation contexts for Verification*

##### 2.2.1.4.1.2.1 Extended Negotiation

No extended negotiation is performed.

##### 2.2.1.4.1.3 SOP Specific Conformance for Verification SOP Class

Dispatcher AE provides standard conformance to the Verification Service Class.

#### 2.2.1.4.2 Activity - Receive Storage Request

##### 2.2.1.4.2.1 Description and sequencing of Activities

As SOP instances are received they are processed and temporarily cached on disk. When a SOP instance has been cached the Dispatcher AE is ready to receive another SOP instance. Data placed in the cache will be transferred to the Delivery Area in the background.

**2.2.1.4.2.2 Accepted Presentation Contexts**

Abstract Syntax		Transfer Syntax		Role	Extended Negotiation
Name	UID	Name	UID		
All storage SOP classes in DICOM are supported. See table A-1 for the current list.  Dispatcher AE can also be configured to support additional SOP classes and exclude support for one or more of the current SOP classes.		Implicit VR Little Endian	1.2.840.10008.1.2	SCP	None
		Explicit VR Little Endian	1.2.840.10008.1.2.1	SCP	None

*Table 2.2.1.4.2.2-1 Accepted presentation contexts for Storage*

**2.2.1.4.2.2.1 Extended Negotiation**

No extended negotiation is performed.

**2.2.1.4.2.3 SOP Specific Conformance for Storage SOP Classes**

Dispatcher AE provides standard conformance to the Storage Service Class.

**2.2.1.4.2.3.1 Response Status**

Dispatcher AE will behave as described in the Table below when generating the C-STORE response command message.

Service Status	Further Meaning	Status Codes	Reason
Refused	Out of Resources	A700	The Data Set exceeds the configured limit and will not be handled
Error	Data Set does not match SOP Class	A9xx	Never sent - data set is not checked prior to processing
	Cannot understand	C000	The Data Set contains errors and cannot be handled
Warning	Coercion of Data Elements	B000	Never sent - data is never changed
	Data Set does not match SOP Class	B007	Never sent - data set is not checked prior to processing
	Elements Discarded	B006	Never sent - all elements are always handled
Success	Data Set accepted for processing	0000	The Data Set has been accepted for further processing and transfer

*Table 2.2.1.4.2.3.1-1 C-Store response status for Dispatcher*

## 2.2.2 Collector Application Entity

### 2.2.2.1 SOP Classes

Collector AE provides Standard Conformance to the following SOP classes:

SOP Class Name	SOP Class UID	SCU	SCP
Collector AE supports all SOP classes but can be configured to exclude support for specific SOP classes.		Yes	No

*Table 2.2.2.1-1 SOP Classes for Collector Application Entity*

### 2.2.2.2 Association Policies

#### 2.2.2.2.1 General

Collector AE only initiates associations. It never accepts any associations.

Maximum PDU size received	16 kB
---------------------------	-------

*Table 2.2.2.2.1-1 Proposed PDU size*

#### 2.2.2.2.2 Number of Associations

Maximum number of simultaneous associations	1
---	---

*Table 2.2.2.2.2-1 Number of associations as an association initiator for Collector*

#### 2.2.2.2.3 Asynchronous Nature

Collector AE only allows one outstanding transaction on an Association.

#### 2.2.2.2.4 Implementation Identifying Information

Implementation Class UID	1.2.752.48.3.1.1.6.1
Implementation Version Name	KRUCOM_J1.6.1

*Table 2.2.2.2.4-1 DICOM implementation class and version for Collector*

### 2.2.2.3 Association Initiation Policy

Collector AE initiates a new Association when new SOP instances are available for transfer. Several SOP instances may be transferred over a single Association.

If Collector AE encounters an previously unknown SOP class, the current Association will be closed. Collector AE will then open a new Association where the new SOP class will be included in the Presentation Context.

### 2.2.2.3.1 Activity - Send Storage Request

#### 2.2.2.3.1.1 Description and Sequencing of Activities

For each data set received and processed by Collector AE a configurable number of attempts will be made to store the data set (with a configurable timeout between the attempts). If an instance cannot be stored after the set number of attempts it will be discarded, and the next data set will be processed.

#### 2.2.2.3.1.2 Proposed Presentation Contexts

Abstract Syntax		Transfer Syntax		Role	Extended Negotiation
Name	UID	Name	UID		
All SOP classes in table A-1.  If Collector AE encounters an previously unknown SOP class in an object, this SOP class will automatically be included.  Collector AE can also be configured to exclude support for specific SOP classes.		Implicit VR Little Endian	1.2.840.10008.1.2	SCP	None
		Explicit VR Little Endian	1.2.840.10008.1.2.1	SCP	None

*Table 2.2.2.3.1.2-1 Proposed presentation contexts for Storage*

Collector AE will propose Presentation Contexts for all of the supported SOP classes and for all the supported Transfer Syntaxes.

#### 2.2.2.3.1.2.1 Extended Negotiation

No extended negotiation is performed.

#### 2.2.2.3.1.3 SOP Specific Conformance for Storage SOP Classes

Dispatcher AE provides standard conformance to the Storage Service Class.

#### 2.2.2.3.1.3.1 Response Status

Collector AE will behave as described in the table below in response to the status returned in the C-STORE response command message. Furthermore, the status will be reported in the following ways, depending on the configuration:

- Logged to a log file
- Displayed in the local status system's web GUI
- Relayed to the Dispatcher the data originated from

Service Status	Further Meaning	Status Codes	Behavior
Refused	Out of Resources	A7xx	Report warning and retry according to policy
Error	Data Set does not match SOP Class	A9xx	Report error and stop processing image
	Cannot understand	Cxxx	Report error and stop processing image

Service Status	Further Meaning	Status Codes	Behavior
Warning	Coercion of Data Elements	B000	Report success with warning
	Data Set does not match SOP Class	B007	Report success with warning
	Elements Discarded	B006	Report success with warning
Success		0000	Report success
Unknown	SCP returned non-standard code	XXXX	Report error and stop processing image

*Table 2.2.2.3.1.3.1-1 C-Store response status handling behaviors*

#### 2.2.2.4 Association Acceptance Policy

Collector AE only initiates associations. It never accepts any associations.

### 2.3 Network Interfaces

#### 2.3.1 Physical Network Interface

The Crossport software uses the TCP/IP networking capabilities provided by the system upon which it is installed.

#### 2.3.2 Additional Protocols

Crossport uses operating system services for name resolution services.

### 2.4 Configuration

Configuration is done using the provided Administration Tool.

#### 2.4.1 AE Title/Presentation Address Mapping

##### 2.4.1.1 Local AE Titles

The Dispatcher AE decides the destination of a received SOP instance based on the Called AE Title of the Association it was received over, hence every Dispatcher AE destination must have a unique AE Title. The Collector AEs are capable of using the same AE Title.

Application Entity	Default AE Title	Default TCP/IP Port
Dispatcher AE (Destination X)	No Default	104
Collector AE (Destination Y)	No Default	Not Applicable

*Table 2.4.1.1-1 AE Title configuration*

### 2.4.1.2 Remote AE Title/Presentation Address Mapping

AE Titles, host names and port settings for remote applications are configured using the Administration Tool.

#### 2.4.1.2.1 Storage

Every Collector AE instance must be configured with the AE Title, host name (or IP-address) and port of the remote Storage SCP.

### 2.4.2 Parameters

Parameter	Configurable (Yes/No)	Default Value
<b>General Parameters</b>		
Time-out waiting for acceptance or rejection Response to an Association Open Request. (Application Level timeout)	No	None
General DIMSE level time-out values	No	None
Time-out waiting for response to TCP/IP connect request. (Low-level timeout)	No	None
Time-out waiting for data between TCP/IP packets. (Low-level timeout)	No	None
Any changes to default TCP/IP settings, such as configurable stack parameters	No	None
Overriding character set used when no character set is specified in a data set. See section 3 for more information.	Yes	ISO_IR_100
<b>Dispatcher AE Parameters</b>		
Maximum PDU size	Yes	16 kB
Size constraint in maximum object size	Yes	80 MB
Maximum number of simultaneously accepted Associations by the Dispatcher AE	No	Unlimited
Accepted Calling AE Titles	Yes	None
Support for additional SOP classes	Yes	None
Exclude support for specific SOP classes	Yes	None
<b>Collector AE Parameters</b>		
Maximum PDU size	No	16 kB
Time-out waiting for acceptance or rejection Response to an Association Open Request. (Application Level timeout)	No	30 s
General DIMSE level time-out values	No	30 s
Time-out waiting for response to TCP/IP connect request. (Low-level timeout)	No	30 s

<b>Parameter</b>	<b>Configurable (Yes/No)</b>	<b>Default Value</b>
Time-out waiting for data between TCP/IP packets. (Low-level timeout)	No	30 s
Number of times a failed send job may be retried	Yes	5
Delay between retrying failed send jobs	No	60 s
Delay before releasing idle Association	No	60 s
Maximum number of simultaneously initiated Associations by the Collector AE	No	1
Exclude support for specific SOP classes	Yes	None

*Table 2.4.2-1 Configuration Parameters*

### 3 Support of Character Sets

Crossport will process DICOM data sets using either a single character set or by applying Code Extension techniques on the specified values in the attribute Specific Character Set (0008,0005).

The character set support of Crossport is dependent of the character set support of the Java Virtual Machine (JVM) on which the application is running. If a character set is not supported by the JVM it is not supported by Crossport. In order for the status system to display data correctly it is also important that the web browser has support for the character set.

For single values of the attribute Specific Character Set (0008,0005) Crossport supports the character sets in Table 3-1.

Defined Term	Description
ISO_IR 6	Default Repertoire
ISO_IR 100	Latin alphabet No. 1
ISO_IR 101	Latin alphabet No. 2
ISO_IR 109	Latin alphabet No. 3
ISO_IR 110	Latin alphabet No. 4
ISO_IR 144	Cyrillic
ISO_IR 127	Arabic
ISO_IR 126	Greek
ISO_IR 138	Hebrew
ISO_IR 148	Latin alphabet No. 5
ISO_IR 166	Thai
ISO_IR 192	Unicode in UTF-8
GB18030	Chinese

**Table 3-1** Character sets supported by Crossport for single values of the attribute Specific Character Set (0008,0005)

When the incoming data set has two or more values in the attribute Specific Character Set (0008,0005) Crossport supports the values in Table 3-2. The outgoing data set will in that case be encoded using the character set *ISO\_IR 192* (UTF-8).

Also notice that *ISO 2022 IR 149* in Table 3-2 is not valid as the first value of the attribute Specific Character Set (0008,0005) as stated in PS 3.3 - 2006 C.12.1.1.2.

Defined Term	Description
ISO 2022 IR 6	Default Repertoire
ISO 2022 IR 100	Latin alphabet No. 1
ISO 2022 IR 101	Latin alphabet No. 2
ISO 2022 IR 109	Latin alphabet No. 3

Defined Term	Description
ISO 2022 IR 110	Latin alphabet No. 4
ISO 2022 IR 144	Cyrillic
ISO 2022 IR 127	Arabic
ISO 2022 IR 126	Greek
ISO 2022 IR 138	Hebrew
ISO 2022 IR 148	Latin alphabet No. 5
ISO 2022 IR 166	Thai
ISO 2022 IR 149	Korean

**Table 3-2** Values supported by Crossport for two or more values of the attribute Specific Character Set (0008,0005)

It is possible to change the character set used to process the incoming data set. A configured overriding character set may be used by Crossport to process the data set when a character set is not specified in the attribute Specific Character Set (0008,0005) or if the attribute is missing.

The default value of the overriding character set is *ISO\_IR 100*. Please contact Krucom AB to change this configuration.

## **4 Security**

### **4.1 Security Profiles**

None supported

### **4.2 Association Level Security**

The Dispatcher AE can be configured to restrict acceptance of Associations to those coming from certain AE Titles.

### **4.3 Application Level Security**

When Data Sets are in transit between two Crossport instances the data is encrypted and digitally signed to ensure the confidentiality, integrity and origin of the data.

AES with RSA for key transport is used for encryption and SHA1 with RSA for digital signatures.

## Appendix A Supported SOP Classes

Below is a list of all storage SOP classes supported by Crossport. It should cover all storage SOP classes defined in DICOM. However, since DICOM is an evolving standard additional SOP classes may have been defined since the printing of this conformance statement. Contact Krucom AB if a required SOP class is not listed.

SOP Class Name	SOP Class UID
Stored Print Storage	1.2.840.10008.5.1.1.27
Hardcopy Grayscale Image Storage	1.2.840.10008.5.1.1.29
Hardcopy Color Image Storage	1.2.840.10008.5.1.1.30
Computed Radiography Image Storage	1.2.840.10008.5.1.4.1.1.1
CT Image Storage	1.2.840.10008.5.1.4.1.1.2
Enhanced CT Image Storage	1.2.840.10008.5.1.4.1.1.2.1
MR Image Storage	1.2.840.10008.5.1.4.1.1.4
Enhanced MR Image Storage	1.2.840.10008.5.1.4.1.1.4.1
MR Spectroscopy Storage	1.2.840.10008.5.1.4.1.1.4.2
Digital X-Ray Image Storage - For Presentation	1.2.840.10008.5.1.4.1.1.1.1
Digital X-Ray Image Storage - For Processing	1.2.840.10008.5.1.4.1.1.1.1.1
Digital Mammography Image Storage - For Presentation	1.2.840.10008.5.1.4.1.1.1.2
Digital Mammography Image Storage - For Processing	1.2.840.10008.5.1.4.1.1.1.2.1
Digital Intra-oral X-Ray Image Storage - For Presentation	1.2.840.10008.5.1.4.1.1.1.3
Digital Intra-oral X-Ray Image Storage - For Processing	1.2.840.10008.5.1.4.1.1.1.3.1
Ultrasound Multi-frame Image Storage	1.2.840.10008.5.1.4.1.1.3.1
Ultrasound Image Storage	1.2.840.10008.5.1.4.1.1.6.1
Secondary Capture Image Storage	1.2.840.10008.5.1.4.1.1.7
Multi-frame Single Bit Secondary Capture Image Storage	1.2.840.10008.5.1.4.1.1.7.1
Multi-frame Grayscale Byte Secondary Capture Image Storage	1.2.840.10008.5.1.4.1.1.7.2
Multi-frame Grayscale Word Secondary Capture Image Storage	1.2.840.10008.5.1.4.1.1.7.3
Multi-frame True Color Secondary Capture Image Storage	1.2.840.10008.5.1.4.1.1.7.4
Standalone Overlay Storage	1.2.840.10008.5.1.4.1.1.8
Standalone Curve Storage	1.2.840.10008.5.1.4.1.1.9
WaveformStorage - Trial	1.2.840.10008.5.1.4.1.1.9.1
12-lead ECG Waveform Storage	1.2.840.10008.5.1.4.1.1.9.1.1
General ECG Waveform Storage	1.2.840.10008.5.1.4.1.1.9.1.2
Ambulatory ECG Waveform Storage	1.2.840.10008.5.1.4.1.1.9.1.3

SOP Class Name	SOP Class UID
Hemodynamic Waveform Storage	1.2.840.10008.5.1.4.1.1.9.2.1
Cardiac Electrophysiology Waveform Storage	1.2.840.10008.5.1.4.1.1.9.3.1
Basic Voice Audio Waveform Storage	1.2.840.10008.5.1.4.1.1.9.4.1
Standalone Modality LUT Storage	1.2.840.10008.5.1.4.1.1.10
Standalone VOI LUT Storage	1.2.840.10008.5.1.4.1.1.11
Grayscale Softcopy Presentation State Storage	1.2.840.10008.5.1.4.1.1.11.1
Color Softcopy Presentation State Storage	1.2.840.10008.5.1.4.1.1.11.2
Pseudo-Color Softcopy Presentation State Storage SOP Class	1.2.840.10008.5.1.4.1.1.11.3
Blending Softcopy Presentation State Storage SOP Class	1.2.840.10008.5.1.4.1.1.11.4
X-Ray Angiographic Image Storage	1.2.840.10008.5.1.4.1.1.12.1
Enhanced XA Image Storage	1.2.840.10008.5.1.4.1.1.12.1.1
X-Ray Radiofluoroscopic Image Storage	1.2.840.10008.5.1.4.1.1.12.2
Enhanced XRF Image Storage	1.2.840.10008.5.1.4.1.1.12.2.1
X-Ray Angiographic Bi-Plane Image Storage	1.2.840.10008.5.1.4.1.1.12.3
X-Ray 3D Angiographic Image Storage	1.2.840.10008.5.1.4.1.1.13.1.1
X-Ray 3D Craniofacial Image Storage	1.2.840.10008.5.1.4.1.1.13.1.2
Nuclear Medicine Image Storage	1.2.840.10008.5.1.4.1.1.20
Raw Data Storage	1.2.840.10008.5.1.4.1.1.66
Spatial Registration Storage	1.2.840.10008.5.1.4.1.1.66.1
Spatial Fiducials Storage	1.2.840.10008.5.1.4.1.1.66.2
Deformable Spatial Registration Storage	1.2.840.10008.5.1.4.1.1.66.3
Segmentation Storage	1.2.840.10008.5.1.4.1.1.66.4
Real World Value Mapping Storage	1.2.840.10008.5.1.4.1.1.67
VL Endoscopic Image Storage	1.2.840.10008.5.1.4.1.1.77.1.1
Video Endoscopic Image Storage	1.2.840.10008.5.1.4.1.1.77.1.1.1
VL Microscopic Image Storage	1.2.840.10008.5.1.4.1.1.77.1.2
Video Microscopic Image Storage	1.2.840.10008.5.1.4.1.1.77.1.2.1
VL Slide Coordinates Microscopic Image Storage	1.2.840.10008.5.1.4.1.1.77.1.3
VL Photographic Image Storage	1.2.840.10008.5.1.4.1.1.77.1.4
Video Photographic Image Storage	1.2.840.10008.5.1.4.1.1.77.1.4.1
Ophthalmic Photography 8 Bit Image Storage	1.2.840.10008.5.1.4.1.1.77.1.5.1
Ophthalmic Photography 16 Bit Image Storage	1.2.840.10008.5.1.4.1.1.77.1.5.2
Stereometric Relationship Storage	1.2.840.10008.5.1.4.1.1.77.1.5.3

SOP Class Name	SOP Class UID
Ophthalmic Tomography Image Storage	1.2.840.10008.5.1.4.1.1.77.1.5.4
Text SR Storage - Trial	1.2.840.10008.5.1.4.1.1.88.1
Audio SR Storage - Trial	1.2.840.10008.5.1.4.1.1.88.2
Detail SR Storage - Trial	1.2.840.10008.5.1.4.1.1.88.3
Comprehensive SR Storage - Trial	1.2.840.10008.5.1.4.1.1.88.4
Basic Text SR	1.2.840.10008.5.1.4.1.1.88.11
Enhanced SR	1.2.840.10008.5.1.4.1.1.88.22
Comprehensive SR	1.2.840.10008.5.1.4.1.1.88.33
Procedure Log Storage	1.2.840.10008.5.1.4.1.1.88.40
Mammography CAD SR	1.2.840.10008.5.1.4.1.1.88.50
Chest CAD SR	1.2.840.10008.5.1.4.1.1.88.65
Key Object Selection	1.2.840.10008.5.1.4.1.1.88.59
Encapsulated PDF Storage	1.2.840.10008.5.1.4.1.1.104.1
Encapsulated CDA Storage	1.2.840.10008.5.1.4.1.1.104.2
Positron Emission Tomography Image Storage	1.2.840.10008.5.1.4.1.1.128
Standalone PET Curve Storage	1.2.840.10008.5.1.4.1.1.129
RT Dose Storage	1.2.840.10008.5.1.4.1.1.481.2
RT Image Storage	1.2.840.10008.5.1.4.1.1.481.1
RT Plan Storage	1.2.840.10008.5.1.4.1.1.481.5
RT Structure Set Storage	1.2.840.10008.5.1.4.1.1.481.3
RT Beams Treatment Record Storage	1.2.840.10008.5.1.4.1.1.481.4
RT Brachy Treatment Record Storage	1.2.840.10008.5.1.4.1.1.481.6
RT Treatment Summary Record Storage	1.2.840.10008.5.1.4.1.1.481.7
RT Ion Plan Storage	1.2.840.10008.5.1.4.1.1.481.8
RT Ion Beams Treatment Record Storage	1.2.840.10008.5.1.4.1.1.481.9
Hanging Protocol Storage	1.2.840.10008.5.1.4.38.1

*Table A-1 Supported storage SOP Classes*